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| APPLICATION NO.         | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------|-------------|----------------------|---------------------|------------------|
| 09/910,862              | 07/24/2001  | Tomoaki Kawada       | HITA.0090           | 4055             |
| 7590                    | 10/23/2003  |                      | EXAMINER            |                  |
|                         |             |                      | LESPERANCE, JEAN E  |                  |
|                         |             |                      | ART UNIT            | PAPER NUMBER     |
|                         |             |                      | 2674                |                  |
| DATE MAILED: 10/23/2003 |             |                      |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                   |               |
|------------------------------|-------------------|---------------|
| <b>Office Action Summary</b> | Application No.   | Applicant(s)  |
|                              | 09/910,862        | KAWADA ET AL. |
|                              | Examiner          | Art Unit      |
|                              | Jean E Lesperance | 2674          |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 10 July 2003.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,2,7,9,15 and 16 is/are rejected.
- 7) Claim(s) 3-6,8, 10-14 and 17-23 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

Claims 1-23 are presented for examination.

Claims 4, 11, and 22 are objected to because of a typo error in line 2. The word radically in line 2 is supposed to be radially as was in the original claim. Correction is needed.

Claim 18 is objected to because of a typo error in line 4. The number 20 after the word least is not supposed to be there. Correction is needed.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 7, 15, and 16 are rejected under U.S.C. 102 (e) as being unpatentable over U.S. Patent number 6,147,725 ("Yuuki et al.").

As for claim 1, Yuuki et al. teach the liquid crystal panel module 5 is arranged at the side of an inner face of a metallic case 6 of the liquid crystal display device 4 (Fig.1) and it is inherent in an LCD to include a pair of substrates between which a liquid crystal layer is interposed corresponding to a liquid crystal panel having a pair of substrates

between which a liquid crystal layer is interposed; the liquid crystal panel module 5 is comprised of a backlight unit 10 disposed at the rear surface of the liquid crystal panel (Fig.2) corresponding to a backlight being disposed at a rear surface side of the liquid crystal panel; and equilateral prisms are located between the light guide plate and reflecting sheet of the backlight unit in a direction parallel to a polarization axis of the polarizing plate of the liquid crystal panel unit (abstract, lines 7-10) corresponding to a diffusing sheet and a prism sheet lying between the rear surface of the liquid crystal panel and the backlight, wherein the light guide plate has a rectangular shaped Fig.2 (11) corresponding to the backlight has a substantially rectangular-shaped light guide plate being formed of a transparent plate and the fluorescent lamp is disposed along a incidence plane provided at one side of the light guide plate corresponding to a linear lamp being disposed along a incidence plane provided at one side of the light guide plate; a plurality of grooves and located opposite the front surface, and a side surface transverse to the front and rear surfaces (column 9, lines 57-59) and as can be seen in Figure 6, where the lamp 13 occupied the entire rear surfaces which means also that the light emission or the lamp 31 is placed at the corner of the light guide plate and creates a plurality of grooves which the examiner is interpreted as corresponding to a light emission pattern having a plurality of grooves slanted to the one side of the light guide plate.

As for claim 7, Yuuki et al. teach the liquid crystal panel module 5 is arranged at the side of an inner face of a metallic case 6 of the liquid crystal display device 4 (Fig.1) and it is inherent in an LCD to include a pair of substrates between which a liquid crystal

layer is interposed corresponding to a liquid crystal panel having a pair of substrates between which a liquid crystal layer is interposed; the liquid crystal panel module 5 is comprised of a backlight unit 10 disposed at the rear surface of the liquid crystal panel (Fig.2) corresponding to a backlight being disposed at a rear surface side of the liquid crystal panel; and equilateral prisms are located between the light guide plate and reflecting sheet of the backlight unit in a direction parallel to a polarization axis of the polarizing plate of the liquid crystal panel unit (abstract, lines 7-10) corresponding to a diffusing sheet and a prism sheet lying between the rear surface of the liquid crystal panel and the backlight, wherein the light guide plate has a rectangular shaped Fig.2 (11) corresponding to the backlight has a substantially rectangular-shaped light guide plate being formed of a transparent plate and the fluorescent lamp is disposed along a incidence plane provided at one side of the light guide plate corresponding to a linear lamp being disposed along a incidence plane provided at one side of the light guide plate; a plurality of grooves and located opposite the front surface, and a side surface transverse to the front and rear surfaces (column 9, lines 57-59) and as can be seen in Figure 6, where the lamp 13 occupied the entire rear surfaces which means also that the light emission or the lamp 31 is placed at the corner of the light guide plate and creates a plurality of grooves which the examiner is interpreted as corresponding to a light emission pattern having a plurality of grooves slanted to the one side of the light guide plate and fine dots.

As for claim 15, Yuuki et al. teach the liquid crystal panel module 5 is arranged at

the side of an inner face of a metallic case 6 of the liquid crystal display device 4 (Fig.1) and it is inherent in an LCD to include a pair of substrates between which a liquid crystal layer is interposed corresponding to a liquid crystal panel having a pair of substrates between which a liquid crystal layer is interposed; the liquid crystal panel module 5 is comprised of a backlight unit 10 disposed at the rear surface of the liquid crystal panel (Fig.2) corresponding to a backlight being disposed at a rear surface side of the liquid crystal panel; and equilateral prisms are located between the light guide plate and reflecting sheet of the backlight unit in a direction parallel to a polarization axis of the polarizing plate of the liquid crystal panel unit (abstract, lines 7-10) corresponding to a diffusing sheet and a prism sheet lying between the rear surface of the liquid crystal panel and the backlight, wherein the light guide plate has a rectangular shaped Fig.2 (11) corresponding to the backlight has a substantially rectangular-shaped light guide plate being formed of a transparent plate and the fluorescent lamp is disposed along a incidence plane provided at one side of the light guide plate corresponding to a linear lamp being disposed along a incidence plane provided at one side of the light guide plate; a plurality of grooves and located opposite the front surface, and a side surface transverse to the front and rear surfaces (column 9, lines 57-59) and as can be seen in Figure 6, where the lamp 13 occupied the entire rear surfaces which means also that the light emission or the lamp 31 is placed at the corner of the light guide plate and creates a plurality of grooves which the examiner is interpreted as corresponding to a light emission pattern having a plurality of grooves slanted to the one side of the light guide plate.

As for claim 16, Yuuki et al. teach a plurality of grooves and located opposite the front surface, and a side surface transverse to the front and rear surfaces (column 9, lines 57-59) and as can be seen in Figure 6, where the lamp 13 occupied the entire rear surfaces which means also that it is formed at both corner area of the main surface 31 of the light guide plate and creates a plurality of grooves which the examiner is interpreted as corresponding to a plurality of grooves are formed at both corner areas on the one of the pair of main surfaces of the light guide plate along the one of the side thereof.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 9 are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent # 6,147,725 ("Yuuki et al.") in view of Publication # 0005991 ("Masaki et al.").

As for claims 2 and 9, Yuuki et al. teach a surface light device of light type for use in a back lighting arrangement in a liquid crystal panel or the like (column 1, lines 15-18) corresponding to a liquid crystal display with a light guide plate. Accordingly, Yuuki et al. teach all the claimed limitations as recited in claims 2 and 9 with the exception of

providing a wedge shaped cross section, the roughening treatment to the surface for controlling the light distribution.

However, Masaki et al. teach a wedge shaped light guide plate Fig.12 (2) corresponding to a wedge shaped cross section and the roughening M2 (Fig.13) corresponding to the roughening treatment to the surface for controlling the light, a light control element according to this invention is characterized by slopes provided with light diffusible surfaces so that a reflecting sheet is preventing from being seen from the exiting-surface side of the light guide plate of a surface light source device of side light type in which the light control element is used, thus improving the quality of the illumination (column 2, lines 21-27) corresponding to the distribution of the light.

It would have been to utilize the wedge shaped light guide plate and the roughening M2 as taught by Masaki et al. in the liquid crystal panel disclosed by Yuuki et al. because this would improve the surface light device of side light type and the prism sheet.

#### ***Allowable Subject Matter***

Claims 3-6, 8, 10-14, and 17-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the claimed invention is directed to a liquid crystal device. Claims 3 and 10 identify a uniquely distinct feature "wherein arrangement density of the grooves

constituting the light emission control pattern are higher at an end side of the corner portion on the surface of the light guide plate". Claims 4 and 11 identify a uniquely distinct feature "wherein the grooves are formed radically out from the end side of the corner portion". Claims 5 and 12 identify a uniquely distinct feature "wherein the grooves are formed to be parallel to each other, and the arrangement density of the grooves is controlled by individual extension lengths thereof ". Claims 6 and 13 identify a uniquely distinct feature "wherein the grooves are formed to be parallel to each other, and the arrangement density of the grooves is controlled by altering respective arrangement intervals or individual depths of the grooves". Claim 8 identifies a uniquely distinct feature "wherein at least a part of an area at which the plurality of grooves are formed and at least a part of an area at which the fine dots are formed are overlapped with one another on the main surface of the light guide plate". Claim 14 identifies a uniquely distinct feature "wherein the arrangement density of the grooves is controlled by altering respective arrangement intervals and individual depths of the grooves". Claim 17 identifies a uniquely distinct feature "wherein density of the plurality of grooves at an intermediate area located on the one of the pair of the main surfaces of the light guide plate between the both corner areas thereof is lower than those at the both corner areas thereof ". Claim 18 identifies a uniquely distinct feature "wherein the one of the pair of main surfaces of the light guide plate has a pair of edges along the corner area thereof, one of which is extended along the one of the sides of the light guide plate, and the plurality of grooves intersect at least one of the pair of edges thereof ". Claim 19 identifies a uniquely distinct feature "wherein extension lengths of the plurality of

grooves from intersecting points thereof with the at least one of the pair of edges of the one of the pair of main surfaces of the light guide plate decrease as far as the intersecting points are spaced from a tip portion of the corner area". Claim 20 identifies a uniquely distinct feature "wherein density of the plurality of grooves decrease as far as intersecting points thereof with the at least one of the pair of edges are spaced from a tip portion of the corner area". Claim 21 identifies a uniquely distinct feature "wherein the plurality of grooves are divided into at least two groups in accordance with intersecting angle thereof with the one of the sides of the light guide plate". Claim 22 identifies a uniquely distinct feature "wherein the plurality of grooves are extended radically from an edge of the one of the pair of main surfaces of the light guide plate along the one of the sides thereof". Claim 23 identifies a uniquely distinct feature "wherein the plurality of grooves are divided into at least two groups in accordance with locations of respective base points one of which each of the plurality of grooves is extended radially from". The closest art, Yuuki et al. as discussed above, either singularly or in combination, fail to teach or render the above limitations obvious.

### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean Lesperance whose telephone number is (703) 308-6413. The examiner can normally be reached on from Monday to Friday between 8:00AM and 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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supervisor, Richard Hjerpe, can be reached on (703) 305-4709 .

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal  
drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or  
proceeding should be directed to the Technology Center 2600 Customer Service Office  
whose telephone number is (703) 306-0377.

Jean Lesperance



Date 10-17-2003

Art Unit 2674



RICHARD HJERPE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

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